

Claims

1. Use of

- (i) a polynucleotide comprising
 - (a) a nucleic acid sequence as shown in SEQ ID NO: 1 or 3,
 - (b) a nucleic acid sequence encoding an amino acid sequence as shown in SEQ ID NO: 2 or 4,
 - (c) a nucleic acid sequence encoding an amino acid sequence as shown in SEQ ID NO: 2 or 4 having a modified signal peptide, a modified N-terminus and/or a modified C-terminus, or
 - (d) a nucleic acid sequence which hybridises under stringent conditions to any one of (a) to (c);
- (ii) a polypeptide encoded by the nucleic acid as defined in any one of (a) to (c); or
- (iii) a compound which binds to an antibody which specifically recognizes the polypeptide defined in (ii) or which specifically binds to an IL-15 receptor alpha chain

for the preparation of a composition for stimulating hair growth.

- 2. Use of a polynucleotide, polypeptide or compound as defined in claim 1 for the preparation of a composition for treating, preventing and/or ameliorating hair loss.
- 3. The use of claim 1 or 2, wherein said composition further comprises a second hair growth stimulating agent.
- 4. The use of claim 3, wherein said second hair growth stimulating agent is selected from the group consisting of zinc salts of carboxylic acids, saponins, triterpenes, preferably oleanolic acid or ursolic acid, crataegolic acid, celastrol, Asiatic acid, inhibitors of 5-[alpha]-reductase, preferably progesterone, 1,4-methyl-4-azasteroids, preferably 17-[beta]-N,N-diethylcarbamoyl-4-methyl-4-aza-5-[alpha]-androstan-3-one, androgen receptor antagonists, preferably cyproterone acetate, Minoxidil(R), azaelaic acid and derivatives thereof, cyclosporin, triiodothyronine, diazoxide, potassium channel openers, preferably cromakalin, phenytoin, and mixtures thereof, and derivatives of oestrogen, preferably oestradiolvalerate.

5. The use of any one of claims 1 to 4, wherein said composition further comprises a pharmaceutically or cosmetically acceptable carrier.
6. The use of any one of claims 1 to 5, wherein said composition is a pharmaceutical composition.
7. The use of any one of claims 1 to 5, wherein said composition is a cosmetic composition.
8. The use of any one of claims 1 to 7, wherein said composition is formulated as a hair tonic, a hair restorer composition, a shampoo, a powder, a jelly, a hair rinse, an ointment, a hair lotion, a paste, a hair cream, a hair spray and/or a hair aerosol.
9. The use of any one of claims 1 to 8, wherein said composition is to be administered topically to the skin or scalp of a subject.
10. The use of claim 9, wherein said subject is a mammal.
11. The use of claim 10, wherein said mammal is a human, a dog, a cat, a horse, a rabbit, a sheep, a camel, a mouse, a rat, an alpaca, a vicuna, a guanaco or a lama.
12. The use of any one of claims 9 to 11, wherein said subject suffers from genetically determined and/or acquired form of hair loss.
13. The use of claim 12, wherein said genetically determined or acquired form of hair loss is alopecia areata, alopecia subtotalis, alopecia totalis, trichotillomania or drug induced alopecia.
14. A transgenic non-human animal comprising a nucleic acid as defined in claim 1, wherein said nucleic acid is specifically expressed in the keratinocytes of the hair bulb, in the Langerhans cells, in the melanocytes, in the dendritic epidermal T-cells, in the mast cells, in cutaneous nerve fibres or in fibroblasts.

15. A method for stimulating hair growth in a non-human animal comprising the steps of:
 - (a) Transforming said animal with a nucleic acid as defined in claim 1; and
 - (b) Expressing the polypeptide encoded by said nucleic acid.
16. A method for manufacturing animal hair comprising the steps of:
 - (a) Transforming said animal with a nucleic acid as defined in claim 1; and
 - (b) Expressing the polypeptide encoded by said nucleic acid.
17. The method of claim 15 or 16, wherein said IL-15 polypeptide is expressed under the control of a regulatory element.
18. The method of claim 17, wherein said regulatory element enables specific expression in the keratinocytes of the hair bulb, in the Langerhans cells, in the melanocytes, in the dendritic epidermal T-cells, in the mast cells, in cutaneous nerve fibres or in fibroblasts.
19. The method of any one of claims 16 to 18, further comprising the step of administering to the skin and/or scalp of a non-human animal the composition as defined in claim 1.
20. A method for manufacturing animal hair comprising the step of administering to the skin and/or scalp of a non-human animal the composition as defined in claim 1.
21. The method of any one of claims 16 to 20, further comprising the step of obtaining the hair of said animal.
22. The transgenic non-human animal of claim 14 or the method of any one of claims 15 to 21, wherein said animal is a dog, a cat, a horse, a rabbit, a sheep, a camel, a mouse, a rat, an alpaca, a vicuna, a guanaco or a lama.
23. A method of treating, preventing and/or ameliorating a subject which suffers from hair loss comprising the step of administering a composition as defined in claim 1 in an effective dosage to said subject.